

**I. Rejection of Claims 11-20 under 35 U.S.C. §103**

The Examiner has rejected Claims 11, 13-17 and 19-20 under 35 U.S.C. §103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of U.S. Patent Application No. 20020064245 by McCorkle. The Examiner rejected Claim 12 as being unpatentable under 35 U.S.C. §103(a) over the AAPA in view of McCorkle and further in view of U.S. Patent No. 6,882,689 to Maggio, et al, (Maggio). Claim 18 was rejected by the Examiner under 35 U.S.C. §103(a) over the AAPA in view of McCorkle and farther in view of U.S. Patent No. 4,677,656 to Burke, et al (Burke).

In the response filed on January 12, 2006, the Applicant set forth the reasons the forgoing rejections should be withdrawn. In the present Office Action the Examiner stated that the reasons were not persuasive because McCorkle teaches "... implementing a combination-modulating scheme such as PPM-bi-phase modulation or multilevel quadrature phase modulation wherein each data is encoded with a unique time and phase, as disclosed in the rejection..." (Office Action, pages 2-3). The Applicant submits that, contrary to the position taken by the Examiner, McCorkle does not teach a pulse that encodes a data element by a unique phase and time position.

Even if McCorkle did teach that a data element could be encoded by a unique phase and time position, the invention claimed by the Applicant would not be enabled by the AAPA taken together with McCorkle, without the benefit of the disclosure set forth in the instant application. How can a data element encoded with a unique phase and time be distinguished from another closely related data element that is also encoded with a unique phase and time without the benefit of the teaching set forth in the present application? In short, the AAPA in combination with McCorkle does not enable the present invention. As noted by the United States Court of Appeals for the Federal Circuit in the

recent case of *In re Sujeet Kumar*, 04-1074 (Fed. Cir., August 15, 2005), ". . . the prior art must enable a person of ordinary skill to make and use the invention."

With respect to the rejection of Claims 1, 13-17 and 19-20 under 35 U.S.C. §103(a) over the AIPA in view of McCorkle, the Applicant again respectfully submits that (1) the prior art does not contain each element of the claimed invention; (2) no suggestion or motivation to combine the references has been identified; and (3) the references do not enable a person of ordinary skill in the relevant art to make and use the present invention as required by *In re Sujeet Kumar*.

The following analysis of McCorkle is directed to independent Claim 11, on which Claims 13-17 and 19-20 are each respectively dependent. McCorkle discloses a mechanism and method for self-canceling noise generated in wireless digital communications using an ultra wide bandwidth (UWB) receiver and for providing multi-mode operation for the receiver. Noise is canceled by generating a first set of wavelets in a same phase as an incoming signal, and a second set of wavelets with an opposite phase as the incoming signal. The received signal and the generated wavelets are mixed and the result integrated such that the integrated output tends to zero. The multiple modes of operation allow the receiver to process multiple types of waveforms. The modes may be chosen by a user-selected switch, a waveform-detection based switch, or the like. (Abstract). It is noted in paragraph 74 of McCorkle that the encoder 350 receives data from the radio controller and interface 303 and preprocesses the data so as to provide a timing input for the UWB waveform generator 345 to produce UWB pulses encoded in shape, or time and shape, to convey the data to a remote location, These shapes include, (1) bi-phase modulated signals (+1, - 1); (2) multilevel bi-phase signals (+1, +a, -a, -1); (3) quadrature phase signals (+ 1, - 1, 3, -j); (4) multilevel quadrature phase signals (+1 ,

$j$ ),  $(-1, j)$ ,  $(+a, -aj)$  . . . , (5) pulse position modulation (PPM) signals (same shape pulses transmitted in different candidate time slots); and (6) any combination of the above waveforms, such as bi-phase channel symbols transmitted according to a PPM signaling scheme. Notwithstanding the versatility of the device described in McCorkle, nowhere does McCorkle teach or suggest that data can be encoded on a pulse spanning a period of time where such period of time is divided into a group of time slots, each of which has its own unique phase and time position. Nor does the AAPA teach such, either by itself or in combination with McCorkle.

In paragraph 0076 of McCorkle, a statement is made that data may be encoded by pulse position modulation and that, in other UWB communication schemes, it is possible to manipulate the shape of the pulses so that the data may be encoded by exploiting the shape of the pulses. Examples given include, a binary phase signal set, quadrature phase signal set, or even a multilevel signal set as would be the case for multi-level bi-phase modulation or multilevel quadrature phase modulation. Again, McCorkle does not teach or suggest that data can be encoded on a pulse spanning a period of time where such period of time is divided into a group of time slots, each of which has its own unique phase and time position.

Although, McCorkle states in paragraph 0077 that the device described therein is able to combine the use of PPM with other modulation schemes that manipulate the shape of the pulses to enable more data bits to be contained per channel symbol transmitted, this is not teaching a time slots each of which has its own unique phase and time position. In short, the AAPA in view of McCorkle does not disclose, teach or suggest the encoding of data on a pulse spanning a period of time where

such period of time is divided into a group of time slots, each of which has its own unique phase and time position.

In addition to the fact that the AAPA in view of McCorkle does not contain each element of the claimed invention, it should be noted that, even if all the elements of the present invention were present in the AAPA and McCorkle, which they are not, no objective factor has been specifically set forth why a person of ordinary skill in the pertinent art would be motivated to combine the respective references as required by *In re Lee*, 277 F.3d 1338, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002). There is no teaching or suggestion in McCorkle that it should be combined with the AAPA nor is there any suggestion of the desirability of such a combination. As stated in *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990), "[t]he mere fact that ... disclosures can be combined does not make the combination obvious unless the art also contain something to suggest the desirability of the combination." *In re Imperato*, 486 F. 2d 585, 587, 179 USPQ 730, 732 (CCPA 1973). The fact that the prior art could be modified in the manner proposed by the Examiner so as to increase the bits per Hertz does not make the modification obvious.

Finally, as note above, even if all the elements of the present invention had been present in the AAPA in view of McCorkle, the combination of the AAPA and McCorkle would not enable the present invention. If McCorkle had stated that the device described therein can be used to encode data on a pulse spanning a period of time where such period of time is divided into a group of time slots, each of which has its own unique phase and the position, this in itself would be insufficient disclosure to enable a person of ordinary skill in the pertinent art to practice the present invention.

Thus, the AAPA in view of McCorkle fails to teach or suggest the invention recited in independent Claim 11 and its dependent claims, when considered as a whole. Claims 11, 13-17 and 19-20 are therefore not obvious over the AAPA in view of McCorkle.

With respect to the Examiner's rejection of Claim 12 as being unpatentable under 35 U.S.C. §103(a) over the AAPA in view of McCorkle and further in view of Maggio, the foregoing arguments are equally applicable to Claim 12 which is dependent on Claim 11. Maggio does not overcome the shortcomings of McCorkle discussed above. Therefore, Claim 12 is not obvious over the AAPA in view of McCorkle and further in view of Maggio.

With respect to the Examiner's rejection of Claim 18 as being unpatentable under 35 U.S.C. §103(a) over AAPA in view of McCorkle and further in view of Burke, the foregoing arguments are equally applicable to Claim 12 which is dependent on Claim 11, because Burke does not overcome the shortcomings of McCorkle discussed above. Therefore, Claim 18 is also not obvious over the AAPA in view of McCorkle and further in view of Burke.

In view of the foregoing remarks, the cited references do not support the Examiner's rejection of Claims 11-20 under 35 U.S.C. §103(a). The Applicants therefore respectfully request the Examiner to withdraw the rejection of Claims 11-20.

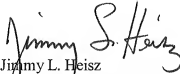
## II. Conclusion

In view of the foregoing amendment and remarks, the Applicant now sees all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicits a Notice of Allowance for Claims 11-20.

The Applicant requests the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 08-2395.

Respectfully submitted,

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Dated: October 5, 2006

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